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FCC Comments Docket 25-133, Delete, Delete, Delete

We realize President Trump is trying to do the right thing by opening up regulations on RF and we strongly support his heart being in the right place on this issue. However, when it comes to RF, there is basically already, no regulation whatsoever that considers the main pathways of harm, the characteristics of the radiation that cause damage to human health and death, and of course animal and environmental health and death. Those characteristics that can create non thermal health effects and death, that are currently not a part of the FCCs regulation are (but not limited to the below):

- pulse modulation
- nano pulses and nano tech
- frequencies
- multiple frequencies being used in one transmissions and multiple devices and infrastructure causing heterodyning and super heterodyning
- power density from multiple sources and even from one source not being

appropriately examined to determine exact level where cell changes happen and cell death can occur, other than thermal.

Most of us in the EMF community who are aware of the problems with EMFs, are also aware that the FCC never considered any problems other than thermal, i.e., explosion, fire, over heating, etc. So the fact that none of the non thermal effects were ever considered for protecting public health, coupled with the fact that our military uses these very same non thermal radiation characteristics in our own weaponry, is a major dichotomy and in fact, irreconcilable. You cannot have “no effect from non thermal radiation” for public health exposure regulations and then turn around and use these same non thermal radiation characteristics in military weaponry for the purposes of harming, killing and/or mind control. Both premises cannot be true, so one is false. We know that the one re: the military using these non thermal characteristics as weapons, to be the true statement, per military documentation and tens of thousands of studies showing harm to human and biological life from these characteristic of RF, millimeter and other wireless transmissions. Below are a few dozen such papers and abstracts, including one link containing thousands of such studies.

Recently, a case against the FCC was lost by the FCC, won by the plaintiffs or petitioners, when it was proven that there is no safety protection whatsoever from RF or millimeter wireless transmissions for children and the environment.
https://thepeoplesinitiative.org/lawsuits/fcc-lawsuit-

2020-rf-standards/

Since losing this lawsuit, the FCC has done NOTHING to adhere to the instruction from the court to update the exposure “safety guidelines”.

We strongly recommend demanding the FCC follow the courts directive to update the standards of exposure, but in the meantime, not to further weaken them, despite the Trump administrations best efforts to get our economy on track by helping businesses cut through red tape…in the particular case of wireless radiation exposure, the result of this would be completely devastating to human and environmental health, especially given there is now evidence of nano tech being included in not only vaccines, but potentially all injectable in the US and abroad.

Here are a couple of studies showing evidence of this…
https://www.scribd.com/document/765594840/Real-Time-Self-Assembly-of-Stereomicroscopically-Visible-Artificial-Constructionsin-Incubated-Specimens-of-mRNA-Products-Mainly-from-Pfizer-and-Modern

Electroactive Nanoinjection platform for intracellular Delivery and Gene Silencing
https://jnanobiotechnology.biomedcentral.com/articles/10.1186/s12951-023-02056-1

Click below to upload our paper which contains layman’s explanations of non thermal effects and

many important studies showing harm from each non thermal characteristic of the radiation…
THE LEGISLATOR'S GUIDE TO WARNING LABELS ON CELL PHONES AND THE LAYMAN'S GUIDE TO THE SCIENCE BEHIND NON-THERMAL EFFECTS FROM WIRELESS DEVICES AND INFRASTRUCTURE

Below are hundreds of links to abstracts of studies showing harm from RF, with one link to a report which contains thousands of such studies.

5G Effects

1 Model of Steady-state Temperature Rise in Multilayer Tissues Due to Narrow-beam Millimeter-wave Radiofrequency Field Exposure. Gajda, G., et al. Health Physics 117(3):254-266 (2019).

2 Untargeted Metabolomics Unveil Alterations of Biomembranes Permeability in HumanHaCaT Keratinocytes Upon 60 HGz Milimeter-Wave Exposure. Pogam, Pierre., et al. Scientific Reports 9(9343) (2019).

3 Ocular Response to Millimeter Wave Exposure Under Different Levels of Humidity. Kojima, M., et al. Journal of Infrared Milli Terahz Waves 40: 574–584 (2019).

4 Millimeter Wave Radiation Activates Leech Nociceptors via TRPV1-Like Receptor Sensitization. Romanenko, S., et al. Biophysical Journal 116(12): 2331-2345 (2019).

5 Systematic Derivation of Safety Limits for Time-Varying 5G Radiofrequency Exposure Based on Analytical Models and Thermal Dose. Neufeld, E.,

and Kuster, N. Health Physics Society (2018).
6 Towards 5G Communication Systems: Are There Health Implications? Ciaula, AD. International Journal of Hygiene and Environmental Health 367-375 (2018).
7 5G Wireless Telecommunications Expansion: Public Health and Environmental Implications. Russell, C.L. Environmental Research 165:484-495 (2018).
8 The Human Skin As A Sub-THz Receiver – Does 5G Pose a Danger To It or Not? Betzalel, N., Ishai, P.B., and Feldman, Y. Environmental Research163:208-216 (2018).
9 The Modeling of the Absorbance of Sun-THz Radiation by Human Skin. Betzalel, N., Feldman, Y., and Ishai, P.B. IEEE Transactions on Terahertz Science and Technology 7(5):521-528 (2017).
10 Human Exposure to RF Fields in 5G Downlink. Nasim, I. and Kim, S. Georgia Southern University (2017).
11 The Human body and Millimeter-Wave Wireless Communication Systems: Interactions and Implications. Wu, T., Rappaport, T., and Collins, C. IEEE International Conference on Communications (2015).
12 State of Knowledge on Biological Effects at 40-60 GHz. Drean, Y., et al. Comptes Rendus Physique (2013).
13 Effects of millimeter waves radiation on cell membrane-A brief review. Ramundo-Orlando, Alfonsina. Journal of Infrared, Millimeter, and Terahertz Waves 31(12): 1400-1411 (2010)
14 Human Skin as Arrays of Helical Antennas in Millimeter and Submillimeter Wave

Range. Feldman, Y., et al. The American Physical Society (2008).*Special thanks to 5gcrisis.com for this comprehensive list.*

Alzheimers

Disturbance of the immune system by electromagnetic fields-A potentially underlying cause for cellular damage and tissue repair reduction which could lead to disease and impairment.

The number of millennials with early-onset Alzheimer's disease is surging, report finds
https://www.phillyvoice.com/millennials-early-onset-dementia-alzheimers/

Between 2013 and 2017, early-onset dementia and Alzheimer's diagnoses increased by 83% among commercially insured Americans aged 30 to 44, according to a report released by the health care insurer. That age group includes the oldest millennials.

Overall, early-onset diagnoses increased by 200% among commercially insured Americans between ages 30 to 64. That included a 50% jump among those 45 to 54 and by 40% for those aged 55 to 64.

Study Finds Electromagnetic Fields May Increase Risk of Alzheimer's
https://news.usc.edu/12202/Study-Finds-Electromagnetic-Fields-May-Increase-Risk-of-Alzheimer-s/

EMFs and Alzheimer's disease
https://www.cdc.gov/niosh/nioshtic-2/00241504.html

Electromagnetic field exposure may cause increased production of amyloid beta and eventually lead to Alzheimer's disease
https://n.neurology.org/content/47/6/1594

Occupational exposure to electromagnetic fields and Alzheimer disease.
https://europepmc.org/article/med/10485576
Risk factors for Alzheimer disease: a population-based case-control study in Istanbul, Turkey.
https://europepmc.org/article/MED/14512826
Alzheimer's disease: insights from epidemiology.
https://europepmc.org/article/MED/11442298
Occupations with exposure to electromagnetic fields: a possible risk factor for Alzheimer's disease.
https://europepmc.org/article/MED/7677130
EMFs and Alzheimer's disease
https://n.neurology.org/content/49/1/312.1
Studies Link EMF Exposure to Higher Risk of Alzheimer's : Health: Those whose jobs involve greater levels of electromagnetic fields, such as tailors and dressmakers, may be three times as likely to develop the disease, researchers say.
https://www.latimes.com/archives/la-xpm-1994-07-31-mn-22049-story.html
This link Contains all east a dozen or more studies o Alzheimers and EMFs
http://www.emfs.info/research/abstracts/alzheimers-abstracts/
http://bioinitiative.info/bioInitiativeReport2012.pdf?eid=O%2F0BIv%2FBAW7SjL3GFWSgldWRd%2FO9s8%2FMTKLubQi9%2F9NhvcHSaX43xMOeHK9RCJTBylyVWaOwoAfJ07fy55PDEazlNpDNNB9ygPKAA1mBQFTUzf82xQ%3D%3D
Alzheimer's disease is a disease of the nervous system. There is strong evidence that long-term exposure to ELF is a risk factor for Alzheimer's disease
B. Changes in the Nervous System and Brain

Function Exposure to electromagnetic fields has been studies in connection with Alzheimer's disease, motor neuron disease and Parkinson's disease. (4) These diseases all involve the death of specific neurons and may be classified as neurodegenerative diseases. There is evidence that high levels of amyloid beta are a risk factor for Alzheimer's disease, and exposure to ELF can increase this substance in the brain. There is considerable evidence that melatonin can protect the brain against damage leading to Alzheimer's disease, and also strong evidence that exposure to ELF can reduce melatonin levels. Thus it is hypothesized that one of the body's main protections against developing Alzheimer's disease (melatonin) is less available to the body when people are exposed to ELF. Prolonged exposure to ELF fields could alter calcium (Ca2+) levels in neurons and induce oxidative stress (4). It is also possible that prolonged exposure to ELF fields may stimulate neurons (particularly large motor neurons) into synchronous firing, leading to damage by the buildup of toxins.

Evidence for a relationship between exposure and the neurodegenerative diseases, Alzheimer's and amyotrophic lateral sclerosis (ALS), is strong and relatively consistent (see Chapter 12). While not every publication shows a statistically significant relationship between exposure and disease, ORs of 2.3 (95% CI = 1.0-5.1 in Qio et al., 2004), of 2.3 (95% CI = 1.6-3.3 in Feychting et al., 2003) and of 4.0 (95% CI = 1.4-11.7 in Hakansson et al., 2003) for Alzheimer's Disease, and of 3.1 (95% CI = 1.0-9.8 in Savitz et al., 1998) and 2.2 (95% CI = 1.0-4.7 in Hakansson et al., 2003) for ALS cannot be simply

ignored.
Section 12 Melatonin, Alzheimers Disease and Breast Cancero There is strong epidemiologic evidence that long-term exposure to ELF magnetic field (MF) is a risk factor for Alzheimers disease.o There is now evidence that 1) high levels of peripheral amyloid beta are a risk factor for AD and 2) medium to high MF exposure can increase peripheral amyloid beta.High brain levels of amyloid beta are also a risk factor for AD and medium to high MF exposure to brain cells likely also increases these cells' production of amyloid beta.o There is considerable in vitro and animal evidence that melatonin protects against Alzheimer's disease. Therefore it is certainly possible that low levels of melatoninproduction are associated with an increase in the risk of AD.o There are insufficient studies to formulate an opinion as to whether radiofrequency MF exposure is a risk factor for AD.o Some studies on EMF show reduced melatonin levels, There is sufficient evidence from in vitro and animal studies, from human biomarker studies, from occupational andlight-at-night studies, and a single longitudinal study with appropriate collection of urine samples to conclude that high MF exposure may be a risk factor for breast cancer.o There is rather strong evidence from case-control studies that longterm, high occupational exposure (> 10 mG or 1.0 ?T)) to ELF magnetic fields is a risk factor for breastcancer.o Seamstresses are, in fact, one of the most highly MF exposed occupations, with exposure levels generally above 10 mG (1.0 ?T) over a significant proportion of theworkday. They have also been consistently found to be at higher risk of Alzheimer's disease and (female) breast cancer. This

occupation deserves attention in future studies.o There are no studies of RF magnetic fields on breast cancer that do not exclude ELF magnetic field, so that predictions of RF magnetic field alone on breast cancer cannot be assessed at this time.
Factors that act directly or indirectly on the nervous system can cause morphological, chemical, or electrical changes in the nervous system that can lead to neurological effects. Both RF and ELF EMF affect neurological functions and behavior in animals and humans. Two hundred eleven (211) new papers that report on neurological effects of RFR published between 2007 and early 2014 are profiled. Of these, 144 (68%) showed effects and 67 (32%) showed no effects. One hundred five (105) new ELF-EMF papers (including two static field papers) that report on neurologicaleffects of ELF-EMF published between 2007 and early 2014 are profiled. Of these, 95 (90%) show effects and 10 (10%) show no effect. (Lai, 2014 – Section 9) K. Evidence for Cancer (Childhood Leukemia) With overall 42 epidemiological studies published to datel power frequency ELF-EMF is among the most comprehensively studied environmental factors. Except ionizing radiation no other environmental factor has been as firmly established to increase the risk of childhood leukemia.Sufficient evidence exists from epidemiological studies of an increased risk from exposure to EMF (power frequency ELF-EMF magnetic fields)and cannot be attributed to chance, bias or confounding. Therefore, according to the rules of IARC such exposures can be classified as a Group 1 carcinogen (Known Carcinogen).There is no other risk factor identified so far for which such

unlikely conditions have been put forward to postpone or deny the necessity to take steps towards exposure reduction. As one step in the direction of precaution, measures should be implemented to guarantee that exposure due to transmission and distribution lines is below an average of about 1 mG. This value is arbitrary at present and only supported by the fact that in many studies this level has been chosen as a reference. (Kundi, 2012 – Section 12) L. Melatonin, Breast Cancer and Alzheimer's Disease MELATONIN AND BREAST CANCER: Eleven (11) of the 13 published epidemiologic residential and occupational studies are considered to provide (positive) evidence that high ELF magnetic fields (MF) exposure can result in decreased melatonin production. The two negative studies had important deficiencies that may certainly have biased the results. There is sufficient evidence to conclude that long-term relatively high ELF MF exposure can result in a decrease in melatonin production. It has not been determined to what extent personal characteristics, e.g., medications, interact with ELF MF exposure in decreasing melatonin production. There is sufficient evidence to conclude that long-term relatively high ELF MF exposure can result in a decrease in melatonin production, which may increase risk for breast cancer. It has not been determined to what extent personal characteristics, e.g., medications, interact with ELF MF exposure in decreasing melatonin production. New research indicates that ELF MF exposure, in vitro, can significantly decrease melatonin activity through effects on MT1, an important melatonin receptor. Five longitudinal studies have now been conducted

of low melatonin production as a risk factor for breast cancer. There is increasingly strong longitudinal evidence thatlow melatonin production is a risk factor for at least post-menopausal breast cancer. (Davanipour and Sobel, 2012 – Section 13) ALZHEIMER'S DISEASE: There is now evidence that a) high levels of peripheral amyloid beta are a risk factor for AD, and b) medium to high ELF MF exposure can increase peripheral amyloid beta. High brainlevels of amyloid beta are also a risk factor for AD and medium to high ELF MF exposure to brain cells likely also increases these cells' production of amyloid beta. There is considerable in vitro and animal evidence that melatonin protects against AD. Therefore it is certainly possible that low levels of melatonin production are associated with an increase in the risk of AD. There is strong epidemiologic evidence that exposure to ELF MF is a risk factor for AD. There are now twelve (12) studies of ELF MF exposure and AD or dementia. Nine (9) of these studies are considered positive and three (3) are considered negative. The three negative studies have serious deficiencies in ELF MF exposure classification that results in subjects with rather low exposure being considered as having significant exposure. There are insufficient studies to formulate an opinion as to whether radiofrequency MF exposure is a risk or protective factor for AD. There is now evidence that (i) high levels of peripheral amyloid beta are a risk factor for AD and (ii) medium to high ELF MF exposure can increase peripheral amyloid beta. High brain levels of amyloid beta are also a risk factor for AD and medium to high ELF MF exposure to brain cells likely also increases these

cells' production of amyloid beta. There is considerable in vitro and animal evidence that melatonin protects against AD. Therefore it is certainly possible that low levels of melatonin production are associated with an increase in the risk of AD. (Davanipour and Sobel, 2012 – Section 13)

Effects on DNA

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2 Radiofrequency Radiation and Gene/Protein Expression: A Review. McNamee and Chauhan. Radiation Research 172(3):265-287 (2009).

3 Evaluation of HSP70 Expression and DNA Damage in Cells of a Human Trophoblast Cell Line Exposed to 1.8GHz Amplitude-Modulated Radiofrequency Fields. Valbonesi, Franzellotto, et al. Radiation Research 169(3):270-279 (2008).

4 Gene and Protein Expression Following Exposure to Radiofrequency Fields from Mobile Phones. Vanderstraeten and Verschaeve. Environmental Health Perspectives 116(9):1131-5 (2008).

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Cell- derived Neuronal Cells: Elucidation of Calcium Pathways. Rao, Titushkin, et al. Radiation Research 169(3):319-329 (2008).

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Effects on Implanted Medical Devices

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2 Electromagnetic Interference of Pacemakers. Lakshmanadoss, Chinnachamy, et al. Interchopen 229-252 (2011).

3 Interference Between Mobile Phones and Pacemakers: A Look Inside. Censi, Calcagnini, et al. Annali dell'Istituto superiore di sanità 43(3):254-259 (2007).

4 Electromagnetic Interference on Pacemakers. Erdogan, Okan. Indian Pacing and Electrophysiology Journal 2(3):74-78 (2002).

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Effects on Male Fertility

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Effects on Young Children

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https://journals.sagepub.com/doi/pdf/10.1177/03946320070200S212
Effects of electromagnetic fields exposure on the antioxidant defense system
http://www.jmau.org/article.asp?issn=2213-879X;year=2017;volume=5;issue=4;spage=167;epage=176;aulast=Kivrak

A review on the effects of extremely low frequency electromagnetic field (ELF-EMF) on cytokines of innate and adaptive immunity
https://www.tandfonline.com/doi/abs/10.1080/15368378.2018.1545668
Electromagnetic field effects on cells of the immune system: the role of calcium signaling1
https://faseb.onlinelibrary.wiley.com/doi/abs/10.1096/fasebj.6.13.1397839
Effects Of 50 Hz Magnetic Field On Some Factors Of The Immune System In Male Guinea Pigs
http://www.emfnews.org/effects-of-50-hz-magnetic-field-on-the-immune-system.html
Radio Frequency Radiation Alters the Immune System: Modulation of T-and B- Lymphocyte Levels and Cell-Mediated Immunocompetence by Hypothermic Radiation
https://www.jstor.org/stable/3575075?read-now=1&seq=1#page_scan_tab_contents
Electromagnetic fields may act via calcineurin inhibition to suppress immunity, thereby increasing risk for opportunistic infection: Conceivable mechanisms of action
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954 MHz microwaves enhance the mutagenic properties of mitomycin C
https://www.ncbi.nlm.nih.gov/pubmed/8698043
Cellphone electromagnetic radiation damages the testicular ultrastructure of male rats
https://www.ncbi.nlm.nih.gov/pubmed/28963835
Exposure to 1.8 GHz electromagnetic fields affects morphology, DNA-related Raman spectra and mitochondrial functions in human lympho-monocytes
https://www.ncbi.nlm.nih.gov/pubmed/29462174

Exposure to 900 MHz radiofrequency radiation induces caspase 3 activation in proliferating human lymphocytes
https://www.ncbi.nlm.nih.gov/pubmed/18763855
Exposure to radiation from single or combined radio frequencies provokes macrophage dysfunction in the RAW 264.7 cell line
https://www.ncbi.nlm.nih.gov/pubmed/29659305
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https://www.ncbi.nlm.nih.gov/pubmed/7020654
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Impact of radiofrequency radiation on DNA damage and antioxidants in peripheral blood lymphocytes of humans residing in the vicinity of mobile phone base stations
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Increased levels of numerical chromosome aberrations after in vitro exposure of human peripheral blood lymphocytes to radiofrequency electromagnetic fields for 72 hours
https://www.ncbi.nlm.nih.gov/pubmed/18159938
Individual responsiveness to induction of micronuclei

in human lymphocytes after exposure in vitro to 1800-MHz microwave radiation.
https://www.ncbi.nlm.nih.gov/pubmed/15781209
Largest Unethical Medical Experiment in Human History Copyright 2020 RN Kostoff
https://smartech.gatech.edu/handle/1853/62452
Morphological changes in the thyroid and adrenals under the bitemporal action of a UHF electrical field and decimeter waves (experimental research)
https://www.ncbi.nlm.nih.gov/pubmed/2336827
Mutagenic and morphologic impacts of 1.8GHz radiofrequency radiation on human peripheral blood lymphocytes (hPBLs) and possible protective role of pre-treatment with Ginkgo biloba (EGb 761)
https://www.ncbi.nlm.nih.gov/pubmed/22014767
Radiofrequency radiation and the immune system. Part 3. In vitro effects on human immunoglobin and on murine T- and B-lymphocytes
https://www.ncbi.nlm.nih.gov/pubmed/6611321
Radiofrequency-induced carcinogenesis: cellular calcium homeostasis changes as a triggering factor
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Radioprotective effects of honeybee venom (Apis mellifera) against 915-MHz microwave radiation-induced DNA damage in wistar rat lymphocytes: in vitro study
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Reaction of the immune system to low-level RF/MW exposures
https://www.ncbi.nlm.nih.gov/pubmed/23562692
Study of low-intensity 2450-MHz microwave exposure enhancing the genotoxic effects of mitomycin C using micronucleus test and comet assay in vitro
https://www.ncbi.nlm.nih.gov/pubmed/12642984

Studying the synergistic damage effects induced by 1.8 GHz radiofrequency field radiation (RFR) with four chemical mutagens on human lymphocyte DNA using comet assay in vitro
https://www.ncbi.nlm.nih.gov/pubmed/15935405
Terahertz radiation increases genomic instability in human lymphocytes
https://www.ncbi.nlm.nih.gov/pubmed/18666810
The effect of electromagnetic radiation with extremely high frequency and low intensity on cytotoxic activity of human natural killer cells
https://www.ncbi.nlm.nih.gov/pubmed/1335293
The effects of 2100-MHz radiofrequency radiation on nasal mucosa and mucociliary clearance in rats
https://www.ncbi.nlm.nih.gov/pubmed/?term=The+effects+of+2100-MHz+radiofrequency+radiation+on+nasal+mucosa+and+mucociliary+clearance+in+rats
The immune response of women with prolonged exposure to electromagnetic fields produced by radiotelevision broadcasting stations
https://www.ncbi.nlm.nih.gov/pubmed/17291406
Effect of electromagnetic radiation on T-lymphocyte subpopulations and immunoglobulin level in human blood serum after occupational exposure
https://www.ncbi.nlm.nih.gov/pubmed/2131394
Effect of electromagnetic waves from mobile phone on immune status of male rats: possible protective role of vitamin D
https://www.ncbi.nlm.nih.gov/pubmed/27901344
Effect of extremely high frequency electromagnetic radiation of low intensity on parameters of humoral immunity in healthy mice
https://www.ncbi.nlm.nih.gov/pubmed/11558390

Effect of low intensity and very high frequency electromagnetic radiation on occupationally exposed personnel
https://www.ncbi.nlm.nih.gov/pubmed/15355705
Effect of low-intensity microwave of on mitomycin C-induced genotoxicity in vitro
https://www.ncbi.nlm.nih.gov/pubmed/14694652
Effect of microwave radiation on cellular immunity indices in conditions of chronic exposure
https://www.ncbi.nlm.nih.gov/pubmed/6611886
Effect of wide-band modulated electromagnetic fields on the workers of high-frequency telephone exchanges
https://www.ncbi.nlm.nih.gov/pubmed/7178066
Effects of 2000 muW/cm2; electromagnetic radiation on expression of immunoreactive protein and mRNA of NMDA receptor 2A subunit in rats hippocampus
https://www.ncbi.nlm.nih.gov/pubmed/21208556
Effects of electromagnetic radiation on health and immune function of operators
https://www.ncbi.nlm.nih.gov/pubmed/24053963
Effects of GSM 1800 MHz radiofrequency electromagnetic fields on DNA damage in Chinese hamster lung cells
https://www.ncbi.nlm.nih.gov/pubmed/16836873

Major EMF reports

The Bionitiative Report A Rationale for a Biologically-based Public Exposure Standard for Electromagnetic Fields (ELF and RF) Last Update 26 March 2010
(this report contains thousands of studies showing harm)
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Special thanks to 5gcrisis.com for this comprehensive list.

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2 Risks to Health and Well-Being From Radio-Frequency Radiation Emitted by Cell Phones and Other Wireless Devices. Miller, A., et al. Frontiers in Public Health 7(223) (2019).

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Brain Tumors

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Table of Cell Tower Studies...
https://thepeoplesinitiative.org/wp-content/uploads/2020/05/Cell-Tower-Epidemiology-Table.png

US Dept. of the Interior...
https://www.ntia.doc.gov/files/ntia/us_doi_comments.pdf

Table of Cell Tower Studies...
https://thepeoplesinitiative.org/wp-content/uploads/2020/05/Cell-Tower-Epidemiology-Table.png

US Dept. of the Interior...
https://www.ntia.doc.gov/files/ntia/us_doi_comments.pdf

UNESCO Report
https://citizensforaradiationfreecommunity.org/wp-content/uploads/2020/01/Mt-Nardi-Wildlife-Report-to-UNESCO-FINAL.pdf

Electromagnetic Warfare and Weapons
https://www.electrosensitivity.co/emf-warfare--weapons.html

Electromagnetic Warfare, Weapons, Weather Modification, Climate Change, Geo-Engineering and Earthquakes

back to: History

1. Electromagnetic Warfare

From the 1950s the military have used low-level electromagnetic radiation in electromagnetic warfare.

Overview: Electrosensitivity specific symptoms caused by electromagnetic warfare, 1953-1980s

Governments in the USSR and USA developed microwave war to cause specific Electrosensitivity symptoms. These were first used against the US embassy in Moscow from 1953 and then were the aim of the secret US Pandora Project of the 1970s. Later they were probably a feature of the USSR's Woodpecker Signal from July 4 1976. Electrosensitivity symptoms were recorded from electronic transmissions by people in Eugene, Oregon, in 1978, the women of Greenham Common, England, in the 1980s, in the troubles of Northern Ireland, and in most wars since the 1990s.

- CNN Special Report 1985: Changing Behavior (9 min.)
- CNN Special Report 1985: Electromagnetic Frequency (19 min.)
- "CNN Admit 60 GHz / 5G is a Weapon in 1985" (19 min.)
- Aaron and Melissa Dykes: "The Still Unsolved Mystery of the Eugene Signal" (Truthstream Media, October 1 2018, 32 min)
- Barrie Trower, in "TEASER - The effect of mobile telephony radiation on our health - checking the facts" (Thank_U_4_Calling, December 13 2018, 6 min)
- Barrie Trower: "Wifi, Microwaves and the Consequences to our Health" (Daily Alternative News, August 20 2013, 14 min)

USSR Microwave Irradiation of US Embassy in Moscow, 1953-1976

From 1953 until 1976 the USSR beamed microwaves at the US embassy in Moscow at 1,000 to 240,000 microWatts/meter squared, using 2.45 to 4 GHz beams. The USA was unaware of this until 1959. In 1975 the USSR increased the power with two different transmitters. Embassy staff suffered typical specific Electrosensitivity symptoms and some developed cancers.

- Many staff had elevated white cell counts or leukemia, with two ambassadors dying of cancer.
  (Chris Sibilla: "Moments in U.S. Diplomatic History: Microwaving Embassy Moscow" 2013;
  James Schumaker: "Moments in U.S. Diplomatic History: Microwaving Embassy Moscow — Another Perspective")
- In 1976 the US fitted aluminium screening to the windows of their Moscow embassy, to protect against non-thermal microwave health effects. The USSR did not admit to irradiating the US embassy until 1976
  ("Russians Admit Microwaves Shot at U.S. Embassy" *Pittsburgh Post Gazette*, February 26 1976).
- "Such practices arguably violate four separate articles of the Vienna Convention on Diplomatic Immunities, and perhaps customary international law as well."
  (Guthrie LB "Legal Implications of the Soviet Microwave Bombardment of the U.S. Embassy" *Boston Coll Internat Compar Law Rev.* 1977)
- In 1953 the Soviets started research into non-thermal health effects in a special laboratory at the Institute of Work Hygiene and Occupational Diseases, Academy of Medical Sciences of the USSR, Leningrad and Moscow.
- Martínez JA: "The "Moscow signal" epidemiological study, 40 years on" (Rev Environ Health, 2019)

Czechoslovakian Research, 1960 on

A Department of High Frequency was established in 1960 at the Institute of Industrial Hygiene and Occupational Diseases in Prague, Czechoslovakia. This Department was concerned solely with the problems of EM waves of the non-ionizing spectrum in relation to man being unfavorably affected.

- *"Typical symptoms are pains in the head and eyes, fatigue connected with overall weakness, dizziness, and vertigo when standing for a longer period. Sleep at night is restive and*

superficial, there is sleepiness during the day. Exposed individuals are subject to changing moods, they often become irritated to the point of becoming intolerable. Hypochondric reactions are manifested along with feelings of fear. Sometimes those affected feel nervous tension or, on the contrary, mental depression connected with inhibition of intellectual functions, mainly decreased memory."
(Marha K: "Maximum admissible values of HF and UHF electromagnetic radiation at work places in Czechoslovakia" in: Cleary SF (ed.) "Biological Effects and Health Implications of Microwave Radiation" Symposium Richmond Virginia, 1969 , *Bureau of Radiological Health, U.S. Department of Health, Education and Welfare*; 1970, BRH/DBE: 70-2: 188).

USA Project Pandora for Microwave Weapons, 1965-1970

After the USA discovered in 1959 that the USSR had been irradiating their embassy in Moscow, there was a move to investigate the use of microwaves as weapons. Studies showed that non-thermal microwave exposure produced typical specific Electrosensitivity symptoms which could disable victims.

- In 1965 Koslov, of the USA's Defence Advanced Research Projects Agency (DARPA), admitted that the Soviets had hundreds of studies showing low-level radio frequency bio-effects. These effects were typical specific Electrosensitivity symptoms, such as *"excessive fatigue, coordination loss, changes in blood pressure, in heart rate, biochemical changes in the blood, and some loss of sensory ability*".
- Analysis of the 'Moscow Signal' led to Project Pandora (1965-1970), the first US research programme into the offensive use of health and psychological effects of low-level microwave radiation. It was 70-80% funded by the military. Studies demonstrated how to induce heart seizures, create leaks in the blood brain barrier and produce auditory hallucinations.
- Despite attempts to hide Project Pandora, memoranda of Richard Cesaro, director of DARPA, confirmed that the programme's initial goal was to "discover whether a carefully controlled microwave signal could control the mind." Cesaro urged that these studies be made "for potential weapons applications" (Defense Intelligence Agency report).
- Dr Milton Zaret informed the CIA about Soviet research: *"For non-thermal irradiations, they believe that the electromagnetic field induced by the microwave environment affects the cell membrane, and this results in the increase of excitability or an increase in the level of excitation of nerve*

cells. With repeated or continued exposure, the increased excitability leads to a state of exhaustion of the cells of the cerebral cortex."
(Anna Keeler: ”Remote Mind Control Technology”, in Jim Keith: *Secret and Suppressed* 1993: 27-41.)

- Following public outcry, Congress forbade further research and demanded that these projects be terminated across the board. Victor Marchetti, a former CIA agent, however, later revealed that the programmes merely became more covert with a high element of 'deniability' built in to them.
(David Guyatt: "Some aspects of anti-personnel electromagnetic weapons" Synopsis for the International Committee of the Red Cross Symposium: "The Medical Profession and the Effects of Weapons" February 1996)
- In 1977 the US Navy held a secret conference on "undesirable electromagnetic effects".
- Sharon Weinberger: "The Secret History of Diplomats and Invisible Weapons" (Daily Mail, August 25 2017; from Sharon Weinberger: "The Imagineers of War: The Untold Story of DARPA, the Pentagon Agency that Changed the World")

Eugene Signal, Oregon, 1978

The Eugene Signal caused specific EHS symptoms to people like Walter Deposkey. 150 documented complaints were made. The source was later said to be a US Navy wireless base at Dixon, California, but this was denied. It sent out a 4.75 MHz signal with 1,100 Hz pulses at 500,000 Watts. Even Clifford Schrock, an investigator who had worked for the CIA and NSA, admitted to headaches.

- The Eugene Register-Guard: "Mystery Signal Discovered in Eugene Area", March 26 1978.
- The Oregon Journal: "Mystery Radio Signal Causing Concern in Oregon", March 28 1978.
- The Eugene Register-Guard: "FCC Backs Off from Naming Signal Source", March 29 1978.
- W.H. Bowart and Richard Sutton: "The Invisible Third World War" (September 27 1990)

US Marine Corps: Non-lethal Electromagnetic Weapons Project, 1980-1983

From 1980-1983 Eldon Byrd, of the Naval Surface Weapons Office, ran the Marine Corps: Non-lethal Electromagnetic Weapons Project, mainly at at the Armed Forces Radiobiology Research Institute in Bethesda, Md. He was commissioned to develop electromagnetic devices for purposes including 'riot control', clandestine operations and hostage removal. Many of his experiments produced typical specific Electrosensitivity symptoms.

- "We were looking at electrical activity in the brain and how to influence it," Byrd said. He conducted experiments on animals - and even on himself - to see if brain waves would move into sync with waves impinging on them from the outside. He found that they would, but the effect was short lived.
- By using very low frequency EMR Byrd found he could induce the brain to release behavior-regulating chemicals. "We could put animals into a stupor" by hitting them with these frequencies. "We got chick brains - in vitro - to dump 80% of the natural opioids in their brains."
- On the controversy about reproductive hazards to Video Display Terminal (VDT) operators, Byrd wrote of alterations in brain function of animals exposed to low intensity fields. Offspring of exposed animals "exhibited a drastic degradation of intelligence later in life... couldn't learn easy tasks... indicating a very definite and irreversible damage to the central nervous system of the fetus." Where VDT operators were exposed to weak fields, there were clusters of miscarriages and birth defects, with evidence of central nervous system damage to the fetus.
- Byrd also wrote of experiments where behavior of animals was controlled by exposure to weak electromagnetic fields. "At a certain frequency and power intensity, they could make the animal purr, lay down and roll over."
- Byrd ran a project using magnetic fields to cause certain brain cells in rats to release histamine. In humans, this would cause instant 'flu-like symptoms and produce nausea. "These fields were extremely weak. They were undetectable. The effects were non-lethal and reversible. You could disable a person temporarily. It would have been like a stun gun."
- Byrd says he was told his work would be unclassified, "unless it works." Because it worked, he suspects that the program "went black." Other scientists tell similar tales of research on EMR turning top secret once successful results were achieved. (Eldon Byrd: *Mankind Research Unlimited*)

US Irradiation of Women at Greenham Common, England, 1984

In the fall of 1984 women protesters at the USAF airbase at Greenham Common in England were subjected to beams of non-thermal microwave irradiation, after they started to be more active following the arrival of Cruise missiles in March 1984. They suffered typical specific Electrosensitivity symptoms, which were documented at the time.

- *These women suffered unusual patterns of illness which ranged from "severe headaches, drowsiness, menstrual bleeding at abnormal times or post-menopausal, to bouts of temporary paralysis, faulty speech coordination and in one case apparent circulatory failure requiring hospitalization"*
  (Rosalie Bertell, commissioner for International Commission of Health Professionals for Human Rights, Geneva, Switzerland; Anna Keeler: "Remote Mind Control Technology", in Jim Keith: "Secret and Suppressed": 38-39)
- Other documented symptoms included:
  "vertigo, retinal bleeding, burnt face (even at night), nausea, sleep disturbances and palpitations … lack of concentration, disorientation, loss of memory, irritability and a sense of panic in non-panic situations."
  (Kim Bealy: "Electromagnetic Pollution: A Little Known Health Hazard, A New Means of Control?" Preliminary Report, Greenham Common Women's Peace Camp)

"Doctors are compiling a report on the condition of a number of Greenham Common peace women who have had symptoms which are consistent with the known neurophysiological effects of electromagnetic waves, or low level radiation. These symptoms range from headache and dizziness to difficulties of concentration or memory. Fears of electronic "zapping" have led peace women at the camp to keep a record of ill-effects reported by their groups over the past year.
Claims that this has revealed a pattern of illness will be presented by the peacewomen at a media briefing in London today. They will report that at least 40 women present at different points around the nine-mile perimeter of the American cruise missile base have experienced similar symptoms, at the same times. Dr. Stephen Farrow, chairman of the Medical Campaign Against Nuclear weapons said yesterday: "We are now compiling evidence about the claims made by the women. There is obviously a great deal of interest in what they say; it seem feasible,

The Greenham women claim that meter tests outside camp, taken at times when women have experienced the symptoms, have shown a marked increase in background microwave signal levels. they also say the symptoms are more pronounced when cruise missile convoys leave the camp."

- Parry G: "Doctors investigating claims of Greenham radiation cases: Peace women fear electronic zapping at base" (Guardian, Mar, 10: 3, 1986)

"Women peace campers at Greenham Common, England, claim that they are being attacked by the US electronic weapons from within the US airbase there. They believe that some form of electromagnetic wave or other signal is being directed at them and is responsible for a number of illnesses they have suffered over the past year. Symptoms range from mild headaches and drowsiness to bouts of temporary paralysis and, in one case, an apparent circulatory failure which required emergency treatment. Women have also complained of sharp pains and problems with speech coordination. A team of doctors from the Medical Campaign Against nuclear Weapons are compiling a report on the condition of the women affected. The women first noticed a pattern of illnesses emerging in 1984. They discounted food or water poisoning as a cause and started to suspect interference from inside the base. They found that women at different points around the camp appeared to have experienced similar symptoms at the same time, even when they were not in contact with one another.

They believe there is a deliberate intent to make life difficult for them and so drive them away. Some of the worst affected women now find it impossible to stay around Greenham for more than a short period of time.
Electronic weapons are know to have been used by security forces on a number of occasions. The Americans are reported to have used ultrasound to disorient and demoralize their enemies during the Vietnam war and a number of American police forces are believed to have carried out trials with infra-sound generators mounted on the back of trucks. The high intensity, low frequency pressure waves these produce are said to cause vomiting, nausea and a range of other disturbances and to induce fits in those who are subject to them. American medical groups have protested against the proposed use of these weapons for urban riot control. Microwave radiation is also believed to have been used as a weapon at various times. The most celebrated instance was the irradiation of the US Embassy in Moscow during the 1950s, '60s and '70s.

The women at Greenham Common suspect that more than one type of frequency of radiation is being used against them. They say that the symptoms vary from time to time and seem to reflect what takes place on the base. Large numbers of women have complained of sudden feelings of extreme tiredness shortly before major events, such as the departure of a cruise missile convoy and on other occasions when their activities might have proved particularly awkward for the forces using the base.
We have conducted a number of tests around the base in cooperation with journalists from other organizations. Readings taken with a wide range signal strength meter showed marked increases in the background signal level near one of the womens' camps at a time when they claimed to be experiencing ill effects. On another occasion, previously low signal levels near the camp rose sharply when the women created a disturbance just outside the perimeter fence of the base.

The signal levels measured were well above normal background levels but still within official safety limits. however, there is evidence from a number of sources that low levels of electromagnetic radiation can have harmful effects especially where exposure takes place over a long period of time."

- "Air Force Accused of "Zapping" Protesters" (Electronics Today, reprinted in On Guard, 1987, p.6)

Microwave attack on US personnel, 1990s

- *"The National Security Agency confirms that there is intelligence information from 2012 associating the hostile country to which Mr. Beck traveled in the late 1990s with a high-powered microwave system weapon that may have the ability to weaken, intimidate, or kill an enemy over time and without leaving evidence. The 2012 intelligence information indicated that this weapon is designed to bathe a target's living quarters in microwaves, causing numerous physical effects, including a damaged nervous system."*
  (National Security Agency, October 16 2014)

US Patents

In 2002, US Air Force scientists invented a method of encoding and transmitting speech by means of radio frequency. The patents report states: "The invention provides a new and useful encoding for speech on an RF carrier such that the speech will be intelligible to a human subject by means of the RF hearing demodulation phenomena."

Patent Numbers:

- US6,470,214 B1
- US6,587,729B2

The lead inventor, Jim O'Loughlin, explained in an Air Force memorandum how the power of radio frequency signals could be modulated to replicate the amplitude-frequency characteristics of audible speech input, and then thermally induce nerve signals that result in the hearing of the transmitted, encoded speech in the brain.

- J O'Loughlin: Memorandum (August 31 2001)

US Navy: Medusa Incapacitation Microwave Weapon, 2004

A microwave weapon prototype for the US Marine Corps was developed in 2004 at a cost of $100,000 by the US company WaveBand Corporation.

The weapon, codenamed Medusa (Mob Excess Deterrent Using Silent Audio), was intended to be small enough to fit in a car, and cause a *"temporarily incapacitating effect ... with a low probability of fatality or permanent injury"*. The weapon used the "microwave audio effect" (MAE), as Professor Lin suggested was used at Havanna from 2016, creating rapid microwave pulses in the brain causing a shockwave inside the skull.

According to the specifications of the contract the microwave weapon would *"be portable, require low power, have a controllable radius of coverage, be able to switch from crowd to individual coverage, cause a temporarily incapacitating effect, have a low probability of fatality or permanent injury, cause no damage to property, and have a low probability of affecting friendly personnel"*.

Lev Sadovnik, WaveBand's former president and CEO, said that the immediate effects of MAE were disorientation and the impression of hearing sounds.

- Title: "Remote Personnel Incapacitation System" (Contract M67854-04-C-1012; Award Amount 99,965.00; Phase I Program Navy SBIR; 11/19/2003 - 05/19/2004 FY Report 2004)
- Julian Borger: "Microwave weapons that could cause Havana Syndrome exist, experts say" (Guardian, June 2 2021)
- Sharon Weinberger: "The Other MEDUSA: A Microwave Sound Weapon" (Wired, August 16 2007)

Microwave Sonic Weapons:

The effects of microwaves producing sound pressures in the brain, known as the microwave auditory effect of the Frey effect, were discovered by Allan Frey in 1962 and have been developed extensively in US and USSR research since then. This included the US MEDUSA project (Mob Excess Deterrent Using Silent Audio).

MEDUSA: Phase I Summary Report (2004):
Objective of Phase Effort
"The main goal of the Phase I project wad to design and build a breadboard prototype of a temporary personnel incapacitation system called MEDUSA (Mob Excess Deterrent Using Silent Audio). This non-lethal weapon is based on the well established microwave auditory effect (MAE). MAE results in a strong sound sensation in the human head when it is irradiated with specifically selected microwave pulses of low energy. Through the combination of pulse parameters and pulse power, it is possible to raise the auditory sensation to the "discomfort" level, deterring personnel from entering a protected perimeter or, if necessary, temporarily incapacitating particular individuals."

Dr Lev Sadovnik, of the Sierra Nevada Corporation, noted that there are health risks, especially brain damage from the high-intensity shockwave created by the microwave pulse. Dr James Lin in 2008 said of a microwave sonic weapon: ""I would worry about what other health effects it is having. You might see neural damage."

- David Hambling: "Microwave ray gun controls crowds with noise" (New Scientist, July 3 2008)
- David Hambling: "The Microwave Scream inside your Skull" (Wired, July 6 2008)
- David Hambling: "Microwave weapon will rain pain from the sky" (New Scientist, July 22 2009)

- David Hambling: "Weapons Grade: How Modern Warfare Gave Birth to Our High-tech World" (Da Capo, 2006, ISBN: 978-0786717699)
- Sharon Weinberger: "The other MEDUSA: A Microwave Sound Weapon" (Wired, August 16 2007)

Sonic weapons have been sold by the US to China:

- David Hambling: "US 'Sonic Blasters' sold to China" (Wired, May 15 2008)

Pulsed RF Weapons and the Havana Syndrome

- IC Experts Panel: "Anomalous Health Incidents: Analysis of Potential Causal Mechanisms" (September 2022)
- "Pulsed RF: Plausible Cause of Havana Syndrome: Declassified Report Renews Concern over RF Weapons" (Microwave News, March 30, 2023)

US Embassy, Havana, Cuba, 2017
Likely microwave weapon attacks:
In 2017 there were reports of illness at the US embassy at Havana, Cuba, caused by electromagnetic radiation or microwave guns or sound waves. Some 24 embassy staff suffered hearing loss, dizziness and nausea and had to be withdrawn. Canadians were also involved. Specific people in specific parts of specific rooms were targeted.

Some psychologists proposed mass hysteria, but physical changes were found in the ears and brains of those diplomats involved.
Another proposal has been a chemical attack.
Another proposal has been a sonic attack.
Since ultrasound used in the brain for therapeutic purposes never causes white matter tract problems, it is now regarded as likely caused by microwave attacks.
For fMRI brain scans showing damage caused by microwaves, see:

- Heuser G et al.: "Functional brain MRI in patients complaining of electrohypersensitivity after long term exposure to electromagnetic fields" (Rev Environ Health, 2017)

New items:

- Associated Press: "Brain abnormalities found in victims of invisible US Embassy attacks in Cuba - leading doctors to think

MICROWAVES caused their loss of vision, hearing, balance and memory" (Daily Mail, December 6 2017)

- Associated Press: "'Sonic attack': Canadian diplomat in Cuba also suffered hearing damage" (Guardian, August 11 2017)
- Associated Press: "Mystery of sonic weapon attacks at US embassy in Cuba deepens" (Guardian, September 14 2017)
- Julian Borger, Philip Jaekl: "Mass hysteria may explain 'sonic attacks' in Cuba, say top neurologists" (Guardian, October 12 2017)
- Zachary Cohen: "New audio adds to mystery of attacks on US diplomats" (CNN, October 14 2017)
- David Hambling: "Weaponised microwave may be behind alleged sonic attacks in Cuba" (New Scientist, December 12 2017)
- Katherine Hignett: "Mass Hysteria or Microwave Weapons - What's behind the 'Sonic Attacks' on U.S. diplomats in Cuba?" (Newsweek, December 19 2017)
- Josh Lederman, Michael Weissenstein: "Dangerous sound? What Americans heard in Cuba attacks" (Associated Press, October 13 2017)
- James Lin: "Strange Reports of Weaponized Sound in Cuba [Health Matters]" (IEEE Microwave Magazine, 2017)
- Beth Mole: "Diplomats in Cuba have been under attack—but the weaponry is a mystery" (Ars Technica, September 17 2018)
- Adam Rogers: "Were US Diplomats in Cuba victims of a sonic attack - or something else?" (Wired, October 5 2017)
- Ali Watkins: "Cuba attack mystery may be Cold War flashback, officials say" (Politico, November 12 2017)

US Consulate, Guangzhou, China, 2018

The US State Department stated in an email to citizens in China: "A US government employee in China recently reported subtle and vague, but abnormal, sensations of sound and pressure." The employee reported experiencing "abnormal sensations of sounds and pressure".

As with the Cuba incident, this is likely microwave sonic effects, long used in electronic warfare, rather than purely sonic effects, which have not shown white matter trauma. See above under Cuba 2017 for fMRI brain scans showing brain damage from microwaves and US scientists noting the brain damage.

"James Lin, an engineering professor at the University of Illinois in Chicago, thought that the effects might have come from microwaves. He produced a "sonic" signal from microwaves in the lab and found that at the threshold level for perception the microwave pulses caused a pressure inside the head interpreted as sound. "If you increase it to super threshold level I have no doubt it could produce serious damage," he said. "I think that's the most likely scenario." The use of microwaves as a potential weapon has a precedent in the Cold War, when American officials discovered that the US embassy in Moscow was being bombarded with them."

Boer Deng: "Mystery noises and illnesses evoke terrors of Cold War" (Times of London, June 15 2018)

- "Health Alert: Location Guangzhou" (U.S. Embassy and Consulates in China, May 23 2018)
- Ian Greenhalgh: "Microwave weapons no longer Conspiracy Theory – Now deployed in China" (Veterans Today, May 23 2018)
- Steven Lee Myers and Jane Perlez: "U.S. Diplomats Evacuated in China as Medical Mystery Grows" (New York Times, June 6 2018)
- Jamie Seidel: "US government employee in China suffers mild brain injury after hearing 'abnormal' sounds" (News Corp Australia Network, May 24 2018)
- Sky News: "US embassy worker in China suffers 'brain injury' amid 'sonic attack' fears" (May 23 2018)

US Diplomats, Beijing and Shanghai, 2018

Two diplomats from the US embassy in Beijing and one from the US consulate in Shanghai complained of symptoms in July 2018 similar to those of dizziness, tinnitus and nausea in the earlier microwave attacks in Guangzhou and Cuba.

- Beth Mole: "Brain injury, sound-attack fears spread in China as more Americans evacuated" (Ars Technica, July 2 2018)
- Steven Lee Myers: "More Americans Evacuated From China Over Mysterious Ailments" (New York Times, June 30 2018)
- Didi Tang: "More US diplomats suffer 'sonic attacks'" (Times of London, July 2 2018)

US Diplomats in Four Countries, 2018

The Associated Press reported that 26 Americans have been "medically confirmed" to have been injured in the wave of incidents, and diplomats who have served in at least seven cities in four countries have sought testing.

"“James C. Lin of the University of Illinois, a leading investigator of the Frey effect, described the diplomatic ills as plausibly arising from microwave beams. Dr. Lin is the editor-in-chief of Bio Electro Magnetics, a peer-reviewed journal that explores the effects of radio waves and electromagnetic fields on living things. In his paper, he said high-intensity beams of microwaves could have caused the diplomats to experience not just loud noises but nausea, headaches and vertigo, as well as possible brain-tissue injury. The beams, he added, could be fired covertly, hitting ‘only the intended target.’”"

William J. Broad: “Microwave Weapons Are Prime Suspect in Ills of U.S. Embassy Workers” (The New York Times, September 1 2018)

- Associated Press: "‘Sonic attack’ scare before Trump-Kim summit raises security concerns" (New York Post, June 26 2018)
- William J. Broad: “Microwave Weapons Are Prime Suspect in Ills of U.S. Embassy Workers” (The New York Times, September 1 2018)
- CNN: "Microwaves suspected in attacks on US diplomats in Cuba and China" (September 2 2018, 3 min)
- Amanda Connolly: “Canadian officials warned staff bound for Cuba to stay silent on ‘Havana syndrome’” (Global News, October 25 2020)
- Editorial Board: “A literal secret weapon is hurting U.S. diplomats abroad. What is it?” (Washington Post, September 7 2018)
- Golomb BA: "Diplomats’ Mystery Illness and Pulsed Radiofrequency/ Microwave Radiation" (Neural Computation, September 2018) Draft Article.
- Julia Ioffe: “The Mystery of the Immaculate Concussion” (GQ Magazine, October 20 2020)
- Rhett Jones: "Bizarre 'Sonic Attack' Symptoms Reportedly Spreading to US Diplomats Around the World" (Gizmodo, June 26 2018)
- Scott LaFee: “Researcher Links Diplomats’ Mystery Illness to Radiofrequency/Microwave Radiation” (health.ucsd.edu, August 29 2018)
- Muth CC et al.: "Neurological Symptoms Among US Diplomats in Cuba" (JAMA, 2018)
- Rubin R: “More Questions Raised by Concussion-like Symptoms Found in US Diplomats Who Served in Havana” (JAMA, 2018)
- South China Morning Post: "Mystery illness that struck US diplomats in China and Cuba ‘likely caused by surveillance’"
(September 4 2018, 1 min)
- Swanson RL et al.: "Neurological Manifestations Among US Government Personnel Reporting Directional Audible and Sensory Phenomena in Havana, Cuba" (JAMA, 2018)

- Henry Zahn: "A mystery illness is still affecting diplomats in Cuba and China" (PBS, June 22 2018)

US Diplomats in Europe: Berlin, Vienna 2021

- Adam Entous: "Vienna Is the New Havana Syndrome Hot Spot: Roughly two dozen possible new cases have been reported by U.S. spies and diplomats in the Austrian capital, more than in any other city except Havana itself" (New Yorker, July 16 2021)
- Bojan Pancevski: "U.S. Officials in Germany Hit by Havana Syndrome" (Wall Street Journal, August 18 2021)

Microwave Weapons cause 'Brain Network Disorder' or Electromagnetic hypersensitivity in US and Canadian diplomats:

- evidence of brain injuries by Diffusion Tensor Imaging MRI

NBC News reports in the fall of 2018 stated that US officials suspected Russian involvement in the microwave weapon attacks on their embassy staff in Cuba and China. They also reported that the Diffusion Tensor Imaging MRI scans of Catherine Werner and her mother Laura Hughes showed brain injury in the form of white matter lesions or 'Brain Network Disorder'. These appear similar to the 3d MRI scans of people with microwave sickness. Microwave sickness was also the result of the USSR's microwave attacks on staff at the US embassy in Moscow in the 1950s and 1960s.

The NAS Report of December 2020

Relman DA et al. (ed.): "An Assessment of Illness in U.S. Government Employees and Their Families at Overseas Embassies" (National Academies of Sciences, Engineering and Medicine. 2020) in Brenda Breslauer, Ken Dilanian and Josh Lederman: "'Havana Syndrome' likely caused by microwave energy, government study finds" (NBC News, December 5 2020) National Academies of Sciences, Engineering and Medicine (Report, 2020): The NAS Report allegedly asserted that there are many mechanisms for radio frequency radiation non-thermal biological effects. These effects reportedly included known electrosensitivity symptoms such as headaches, nausea, dizziness, fatigue, anxiety, memory loss and cognitive upsets, along with the Frey hearing effect of 1961 or tinnitus. They were apparently not the result of psychological factors, since they seemed to be caused by injury to the central nervous system.

- Christie Adanga: "Mysterious brain injury of Cuban diplomats suspected to be caused by microwaves" (Eminetra.co.nz, December 5 2020)
- Anon.: "Defeating Microwave Weapons!" (YouTube, March 2 2022, 29 mins)
- AP Newsroom: "Report finds microwave energy likely made US diplomats ill" (Fox17, December 5 2020)
- Associated Press: "Mysterious 'Havana Syndrome' likely caused by microwave energy: report" (CTV News, December 5 2020)
- Associated Press: "Report finds microwave energy likely made US diplomats ill: A report by the National Academy of Sciences has found that “directed” microwave radiation is the likely cause of illnesses among American diplomats in Cuba and China" (ABC News, December 6 2020)
- Tal Axelrod: "Mysterious illness targeting US diplomats in China, Cuba likely the result of microwave energy: report" (The Hill, December 5 2020)
- "'Havana syndrome' likely caused by directed microwaves - US report" (BBC News, December 6 2020)
- Julian Borger: “Havana syndrome: NSA officer’s case hints at microwave attacks since 90s” (Guardian, May 2 2021)
- Brenda Breslauer, Ken Dilanian and Josh Lederman: “'Havana Syndrome' likely caused by microwave energy, government study finds” (NBC News, December 5 2020)
- Jamie Crawford: "'Sonic attacks' suffered by US diplomats likely caused by microwave energy, government study says" (CNN News, December 5 2020)
- Foreign Staff: "Microwave 'attack' may have caused mystery illnesses of US diplomats in Cuba and China: Scientists working for State Department suggest 'directed' radiation similar to methods of the Soviet Union could be to blame" (Telegraph, December 6 2020)
- Jennifer Hansler: “State Department names senior official to lead response to mysterious 'Havana syndrome' attacks” (CNN, March 12 2021)
- Patrick Knox: "MYSTERY SOLVED? US diplomats and spies with ‘Havana Syndrome’ in Cuba and China ‘suffering effects of directed microwave energy’" (Sun, December 6 2020)
- Peter Kornbluh (ed.): “U.S.-Cuba: Secrets of the 'Havana Syndrome'” (National Security Archive, February 10 2021)
- Pam Long: "Report on ‘Havana Syndrome’ Prompts Call for More Research Into Health Impact of 5G" (Childrens' Health Defense: The Defender, January 8 2021)
- “Mysterious neurological symptoms suffered by American spies and diplomats in Cuba and China - dubbed 'Havana Syndrome' -

could be the result of a microwave energy weapon, says new report" (Daily Mail, December 5 2020)
- Aaron Mak: "Government Report Suggests Microwave Attacks Likely Afflicted U.S. Diplomats" (The Slate, December 5 2020)
- Reuters: "Havana syndrome: 'directed' radio frequency likely cause of illness – report: First official explanation of illness that affected US diplomats in Cuba says 'pulsed' energy may have led to unexplained symptoms" (Guardian, December 6 2020)
- Ana Swanson and Edward Wong: "Report Points to Microwave 'Attack' as Likely Source of Mystery Illnesses That Hit Diplomats and Spies: A government-commissioned report provides the most definitive explanation yet for "Havana syndrome," which struck scores of American employees, first in Cuba and then in China, Russia and other countries." (NYTimes, December 5 2020)
- Danielle Zoellner: "US spies and diplomats accuse Trump administration of cover-up after mysteriously getting sick in Cuba, China and Russia: Cases of a mysterious illness were first reported in Cuba in 2016" (Independent, October 21 2020)

- NBC News: "Evacuated after 'health attacks' in Cuba and China, diplomats face new ordeals in U.S." (Fox WXXV 25, October 29 2018)
- NBC News: "U.S. officials suspect Russia in mystery 'attacks' on diplomats in Cuba, China" (September 11 2018)
- Snejana Farberov: "'She's just a shell of what she was': US diplomat injured in mystery 'brain' attack in China is identified - as her mother speaks out about her harrowing chronic illness" (Daily Mail, November 21 2018)
- Josh Lederman and Andrea Mitchell: "Mother of U.S. diplomat hurt in 'health attack' speaks out" (NBC News, November 20 2018, 4 min.)
- Frances Martel: "'Violent Nosebleeds' and Dogs Vomiting Blood: Victims of Cuba, China 'Sonic' Attacks Speak" (Breitbart, November 20 2018)
- Scott Pelley: "Brain trauma suffered by U.S. diplomats abroad could be work of hostile foreign government" (60 Minutes, March 17 2019)
- Lara Seligman, Andrew Desiderio and Betsy Woodruff Swan: "U.S. troops increasingly vulnerable to directed-energy attacks, Pentagon tells lawmakers" (Politico, April 22 2021)
- Betsy Woodruff Swan, Andrew Desiderio, Lara Seligman and Erin Banco: "Pentagon investigated suspected Russian directed-energy attacks on U.S. troops" (Politico, April 22 2021, 04:30)

- Katie Bo Williams and Jeremy Herb: “US investigating possible mysterious directed energy attack near White House” (CNN, April 29 2021)

Attempt to deny electrosensitivity attacks: lovelorn crickets

Some attempts have been made to deny the scientific and medical findings, especially the 3d fMRIs showing brain damage which is not consistent with acoustic injury, in an attempt to deny that electromagnetic warfare was not involved in Cuba and China.

One hypothesis was that the damage was caused by the intermodulation of two eaves-dropping ultrasound beams.

Another hypothesis was the extraordinary claim that these electrosensitive efffects can be produced by the cricket insect, although there is no evidence over the last 80 years of research, since electrosensitivity was first described in 1932, that crickets can produced the same adverse health effects as electromagnetic radiation and energy. It is more likely that the recording of the crickets was not the cause of the specific electrosensitivity symptoms.

Both Foster and Sample have previously denied the hundreds of scientific papers showing electrosensitivity and other harmful effects from, for instance, Wifi radiation and cellphones.

- AP Archive: "What Americans Heard in Cuba Attacks: The Sound" (October 17 2017, 3 min)
- Kenneth Foster: "Cuba's "Sonic Attack" on the U.S. Embassy Could Have Been Merely Sounds Emitted by a Listening Device" (Scientific American, September 7 2018)
- Ian Sample: "'Sonic attack' on US embassy in Havana could have been crickets, say scientists" (Guardian, January 6 2019)
- Alexander L Stubbs, Fernando Montealegre-Z: "Recording of "sonic attacks" on U.S. diplomats in Cuba spectrally matches the echoing call of a Caribbean cricket" (BioRxiv, not peer-reviewed, January 4 2019)
- Carl Zimmer: "The Sounds That Haunted U.S. Diplomats in Cuba? Lovelorn Crickets, Scientists Say" (New York Times, January 4 2019)

Continued ES Microwave Attacks

- Adam Entous: “Are U.S. Officials Under Silent Attack?” (The New Yorker, May 24 2021)

Traumatic Brain Injury

and Middle Eastern Wars since the Year 2000

Since the year 2000 it is reported that 408,000 US troops have suffered Traumatic Brain Injury in the Middle East. Symptoms include headaches, dizziness, sensitivity to light and nausea. Symptoms can take time to manifest.

The Iranian attach of January 8 2020 on a US base caused over 100 cases of traumatic brain injury.

- Julian Borger and Joanna Walters: "Pentagon says 34 US soldiers suffered traumatic brain injury in Iran strike" (Guardian, January 24 2020)
- Golomb BA: "Diplomats' Mystery Illness and Pulsed Radiofrequency/Microwave Radiation" (MIT, October 26 2018)
- Guardian staff and agencies: "More than 100 US troops suffered traumatic brain injury in Iran strike, military says" (Guardian, February 10 2020)
- Idrees Ali, Phil Stewart: "More than 100 US troops diagnosed with brain injuries from Iran attack" (Reuters, February 10 2020)
- Steve Inskeep: "Pulling Back The Curtain On DARPA, The Pentagon's 'Brain'" (NPR, September 15 2015)
- T. Christian Miller: "Aftershock: The Blast That Shook Psycho Platoon" (ProPublica, March 13 2012)
- Reuters: "Iran missile strike: 50 US troops now diagnosed with brain injuries" (Guardian, January 29 2020)
- Michael Safi: "Trump downplays brain injuries suffered by US troops in Iran missile strike" (Guardian, January 22 2020)

Recent Developments in Microwave Warfare

- Dana Ashlie: "This just happened in CA! LASΞRS, MICROWAVES and D.Ξ.W.s" (April 27 2019, 15 min.)
- David J Dean: "Low-intensity conflict and modem technology" (Air University Press Center for Aerospace Doctrine, Research, and Education Maxwell Air Force Base, Alabama, 1986)
- Dr Robert Duncan: "MIT Presentation Preview Neuroweapons - American Civilians - Targeted Individuals" (AmericanInkJet, April 28 2019, 68 min.)
- Paul Gaffney: "Amended FOI re:UK/US use of weapons I previously gave the misnomer 'Voice of God 'weapon systems" (What do they Know? February 17 2010)

- Bill Gertz: "How China's Mad Scientists Plan to Shock America's Military: Super Lasers, Railguns and Microwave Weapons" (The National Interest, March 10 2017)
- Nicole Had: “Thousands in China Exposed to ‘Mind Control’ Technology Seek Answers” (Epoch Times, September 18 2019)
- Alex Hern: "Hacked satellite systems could launch microwave-like attacks, expert warns" (Guardian, August 9 2018)
- "Hacked satellite could launch microwave-like attacks" (Homeland Security News Wire, August 10 2018)
- Elsa B. Kania: "The PLA’s Potential Breakthrough in High-Power Microwave Weapons" (The Diplomat, March 11 2017)
- Leonardo DRS: "Blackstone Body-Worn DF/TDOA System" (2018)
- Jeffrey Lin and P W Singer: "China's new microwave weapon can disable missiles and paralyze tanks" (Popular Science, January 26 2017)
- Reutters and Cheyenne Macdonald: "Expert warns satellites could be hacked and used as giant 'radio frequency weapons,' as researchers gather in Las Vegas to hunt for bugs in communication systems and voting machines" (Daily Mail, August 10 2018)
- John J McMurtrey: "Remote Behavioral Influence Technology Evidence" (2003)
- Peter Mooring: "What our governments do not tell us: Weapons based on radio waves - electromagnetic weapons" (Electromagnetic Weapons, 2014)
- Michael Peck: “The Pentagon Fears That Deadly Microwave Weapons Are Undetectable” (Forbes, March 2 2021)
- Michael Peck: “The Pentagon Wants To Arm Drones With Non-Lethal Lasers And Microwave Cannon” (Forbes, March 8 2021)
- James Pero: "Pentagon has developed a laser that can identify subjects from hundreds of meters away based on their HEARTBEAT" (Daily Mail, June 28 2019)
- Kevin Robinson-Avila: "The Air Force has a new drone-killing microwave weapon named 'Thor'" (Task & Purpose, June 21 2019)
- James Seidel: "The biotechnology revolution is here - and so are superhuman soldiers of war" (The Advertiser, Adelaide Now, May 11 2018)
- Ian Shapira: "Was a spy’s Parkinson’s disease caused by a secret microwave weapon attack?" (The Washington Post, December 5 2017)
- Joseph Trevithick: "Is The United States Firing Off "Electricity Bombs" in Syria?" (The Drive, July 27 2017)

- Philip Walker: "High-Tech War-Crime Report, Prepared for Congress & The Trump Administration" (Universal Aspects, April 2018)
- Curtis Waltman: "Washington State Fusion Center accidentally releases records on remote mind control: “EM effects on human body.zip” (MuckRock, April 18 2018)
- "Bio-electromagnetic Weapons: The ultimate weapon" (Institute of Science in Society, May 29 2011)
- “Brain-controlled weapons, let the enemy kill each other: The effect is comparable to nuclear weapons” (Chinese People’s Daily, May 2012)
- “Chinese brain control principle (all)” (gvcten.com, auto. trans., February 24 2019)

Recent Wars

Most armies now deploy electronic warfare units which aim to create specific Electrosensitivity symptoms in the enemy to confuse, disorientate or debilitate them.

- During recent wars in places like Iraq some troops have been withdrawn when they have begun to suffer from symptoms of Electrosensitivity. Before the main engagements with explosives, electronic radiation was used to disorientate enemy personnel by creating typical specific Electrosensitivity symptoms in them.

China’s People’s Liberation Army used microwave weapons to drive Indian troops from two hilltops in the Ladakh region, Himalayas, according to Jin Canrong, professor of international relations at Renmin University, based at Beijing. Mr Jin said: “In 15 minutes, those occupying the hilltops all began to vomit. They couldn’t stand up, so they fled.”

- Didi Tang: “China’s microwave pulse weapon defeats Indian troops at Himalayan border” (The Australian, November 17 2020)

Geo-magnetic Warfare, Geo-Terrorism and 'Technetronic' Warfare

The combination of Technology and Electronics ('Technetronics' as described in 1968 by Brzezinski, National Security Adviser to President Jimmy Carter, 1977-81) allows malevolent governments increasingly to control covertly both geo-magnetic

events, like global warming and earthquakes, and also increasingly to control human psychological and cognitive processes.

Thus the political emphasis on carbon-caused global warming can be seen in part as an attempt to hide covert geo-magnetic interference itself causing global warming along with unusual weather-related events. Such geo-magnetic events can apparently be manipulated to exert pressure on governments reluctant to accept a super-power's political hegemony.

- *"The technetronic era involves the gradual appearance of a more controlled society ... dominated by an elite, unrestrained by traditional values ... this elite would not hesitate to achieve its political ends by using the latest modern techniques for influencing public behavior ... In addition, it may be possible - and tempting - to exploit for strategic political purposes the fruits of research on the brain and on human behavior."*
  Zbigniew Brzezinski: "Between Two Ages : America's Role in the Technetronic Era" (1970)
- Zbigniew Brzezinski: "America in the Technetronic Age: New Questions of our Time" (Encounter, 1968)
- Jeff Wefferson: "Geo-Terrorism unleashed in New Zealand: '11/14', Exercise Mahi Tangaroa, Cetacean Holocaust, Repeat of Christchurch Quake Scenaria = 'Technetronic' Warfare, Koyaanisqatsi and the 'Day of Purification'" (Geo-Terrorism Blogspot)

China

- Stephen Chen: "China’s new antenna is five times the size of New York City, but some fear it could be a cancer risk" (South China Morning Post, December 31 2018)

Shielding and Protection

People with Electrosensitivity often use protective silvered netting, manufactured originally for military use, to shield themselves from the radiation from cellphones, WiFi and towers. Much of industry, as well as the military and individuals, now wish to shield themselves from electromagnetic attack.

- William A. Radasky: "Electromagnetic Warfare Is Here" (IEEE Spectrum, 2014)

Victim Support Group

- Stop007 (Dr Katherine Horton)

US DARPA Research into Pilots' Electrosensitivity

In 2020, after several losses of US aircraft including reports of pilot disorientation and loss of situational awareness, DARPA announced its ICEMAN project to investigate electrosensitivity among pilots in high-tech cockpits.

- "Does Cockpit RF Disorient Pilots? DARPA Wants To Know" (Microwave News, September 16 2020)
- DARPA: ICEMAN Project Proposal (September 2020)
- Gina Harkins: "Marine Corps Finds Unprofessional Command Led to Fatal Midair Crash that Killed 6" (Military.com, September 23 2019)
- Dr Joseph Mercola: "US Military Fears EMFs Are Causing Pilots to Crash" (September 25 2020)
- Michael Peck: "Cockpit Electromagnetic Fields May Be Harming Pilots, The U.S. Military Fears" (Forbes, September 14 2020)

2. Electromagnetic Weapons

Indiscriminate Pulse and Microwave weapons

Some governments deploy electromagnetic devices both against enemy forces and against parts of their own civilian population. These tend to be indiscriminate, harming all people and animals within range. They can often produce typical specific Electrosensitivity symptoms.

High Altitude Electromagnetic Pulse' (HEMP)

Very powerful devices, like 'High Altitude Electromagnetic Pulse' (HEMP), aim to disable all electronic equipment and installations over a wide area.

Smaller-scale 'microwave energy weapons' (HPM) can cause painful burning sensations or other injuries to someone in the path of the beam, or can even be fatal. They would likely impact hospital equipment and implanted cardiac pace-makers, rendering such weapons as subversive to human rights under several categories.

- Clay Wilson: "High Altitude Electromagnetic Pulse (HEMP) and High Power Microwave (HPM) Devices: Threat Assessments" (Congressional Research Service (CRS) Report for Congress, July 21 2008)

Millimeter Wave Weapons

Weapons using millimeter electromagnetic waves to cause unbearable heat and skin pain among other effects have been developed. Indiscriminate mass attack weapons, like Ray Guns and Active Denial, use pulsed radiation.

- Jim Acosta and Caroline Kelly: "Army National Guard major told Congress feds requested heat ray and stockpiled ammunition before clearing DC protest" (CNN, September 17 2020)
- Michael Hanlon: "Run away the ray-gun is coming : We test US army's new secret weapon" (Daily Mail, September 18 2007)
- Dina Temple-Raston: "Military Confirms It Sought Information on Using 'Heat Ray' Against D.C. Protesters" (NPR, September 16 2020)

Covert Pulsed Radiation

Covert pulsed radiation from towers and mobile units has been used by some governments to 'control' selected sections of their civilian population, especially through disablement and disorientation, or, in the longer term, through neurological illnesses and cancers.

The use of electromagnetic radiation from WiFi and cellphones in public areas such as hospitals, schools and other public areas acts in the same way as indiscriminate electromagnetic weaponry against people who are highly sensitive to electromagnetic radiation.

Directed Energy Weapons

For claimed use of Directed Energy Weapons by China, Russia and USA, see:

- Michael Janitch: "Dept. of Defense Secretary Mark Esper confirms Directed Energy Weapons (DEW) in space" (Dutchsinse, September 16 2020)
- "Dept. of Defense Secretary Mark Esper CONFIRMS Directed Energy Weapons (DEW) in space" (YouTube, 11 min)
- "Directed Energy Weapon (DEW) beam shooting from California to MALHEUR NATIONAL REFUGE" (Dutchsinse, September 8 2020)

Laser Weapons System (LaWS)

The US Navy is planning to deploy high-energy Laser weapons. This is also known as directed energy. It can be used both defensively against missile strikes and offensively.

- Tim Risen: "Weapons of the Future, Available Soon: The U.S. Navy is testing classified, high-tech lasers that sci-fi fans have only dreamed about" (U.S.News, April 21 2015)
- Nicholas West: "U.S. Air Force and Raytheon Join Navy and Lockheed Martin by Introducing Directed Energy Weapons" (Activist Post, August 5 2019)

Individually Targeted Electromagnetic Weapons

- Individual electric assault weapons or conducted electric weapons, like Taser, use wired barbs or electrodes to electrify the person targeted and create severe muscular reactions.
- Some countries regard stun guns or tasers as instruments of torture prohibited by the United Nations Committee against Torture.
  ("U.N.: Tasers Are A Form Of Torture" CBS News, November 25 2007)
- Portable microwave devices like cellphones or tablets can act like electromagnetic weapons against an individual person highly sensitive to them, producing the typical Electrosensitivity symptoms which the World Health Organization states can be disabling.
  There is increasing evidence that agencies and networks, allegedly linked to some governments, are illegally using microwave weapons against targeted individuals for political or business reasons.
- "High Energy Physicist, Dr. Katherine Horton, Tells of her Debilitating Attacks From Govt Weapons" (2017, 70 mins)
- Dana Ashlie: "Targeted Individuals heard Voices (1)" (2) (Whats This, May 9 2018, 14 min.)
- Bob Fredericks: "DC shooter was 'hearing voices'" (New York Post, September 17 2013)
- Alex Johnson: "Parkland shooting suspect Nikolas Cruz spoke of 'voices,' says he attempted suicideThe voices told him to "burn, kill, destroy," according to a transcript of Cruz's interview with investigators" (NBC News, August 6 2018)

- Rhoda Wilson: “Did German Chemist Dr. Andreas Noack Die After Direct Energy Weapon Attack?” (The Exposé, December 7 2021)

Proposed Mind Control or Interference: Lilly waves and Psychotronic Warfare

- John C. Lilly (1915-2001) developed a balanced bi-phasic electric pulse pair, the 'Lilly Wave', to push ions in the neuron in first one direction and then the other, thus stimulating the neuron. Previous wave forms used in neurophysiology and neurosurgery injured the neurons when unidirectional current passed through the brain. This stimulates the neurons of the brain to resonate at a certain frequency. Thus the Lilly wave has the ability to control the brainwave patterns of the brain.
  - Lilly JC et al.: "Brief, noninjurious electric waveform for stimulation of the brain" (Science, 1955)
- Similar effects are used in transcranial alternating current stimulation (tACS), with electrodes attached to the skull. It can produce retinal phosphenes. Direct current applications (tDCS) have become common and present challenges (Wexler A, 2016). These systems, and EEG, can now be controlled by commercial devices using wireless links (e.g. Neuroelectrics). Many people, of course, are sensitive to low-level electromagnetic exposure and can experience similar adverse effects from environmental ambient radiation (Eger H et al, 2010).
- It has been claimed that the Lilly Wave can also make the brain's water molecules resonate at a desired frequency thus causing the electrons that form the brain's electrical voltages to also resonate at the same frequency, using electromagnetic and acoustic waves. The Lilly Wave can also entrain blood sugar and iron within neurons' cellular structure when the molecule is targeted by a wave resonating at the same frequency as that molecule, leading to the molecule's explosion. For sugar molecules and crystals this triboluminescence releases an electric and electromagnetic charge, creating extreme confusion, dizziness, and lack of awareness or apathy.
  The Lilly Wave frequency has allegedly been used as a military application, known as the “madness” frequency. The Los Angeles Riots are said to have been the first open test of its capacity to mass control anger and violent response from the mob.
  The Lilly Wave can also entrain the brain and blood's iron molecules, causing the iron to condense together via resonant

attraction and clump within the brain, causing the iron to be magnetised and rush to the top of your head. This results in a rush of blood to the head and extreme confusion and dizziness. It can also be reversed, causing a draining of blood from the head, leading to unconsciousness.

- "The Lilly Wave And Psychotronic Warfare" (The Bridge)

- There is evidence that magnetic stimulation and cellphone signals can affect the brain glucose metabolism in the brain, perhaps supporting the evidence for this form of warfare Volkow ND et al, 2010; Volkow ND et al, 2011.
- Makia Freeman: "Total Individual Control Technology: Insider Exposes How You & Your DNA are Being Targeted" (The Freedom Articles, August 25 2017)
- Preston James: "Currently Deployed Psychotronic Mind-Control Technologies" (rense.com, November 27 2016)
- Preston James: "Secret and Silent Frequency Wars" (Veterans Today, October 8 2018)
- Peter Kirby: "Your Cell Phone is a Psychotronic Weapon of Mass Mind Control" (Waking Times, October 5 2018)
- Richard Alan Miller: "Synthetic Telepathy and the Early Mind Wars" (2002)
- "Science Channel Admits Microwaves Used in Mind Control" (Blowfish913, November 29 2008; 5 min.)
- Sharon Weinberger: "Mind Games" (Washington Post, January 14 2007)
- "Gang Stalking & V2K Testimony by Private Security Whistleblower" (RichiefromBoston, November 1 2017, 77 min,)
- "They Do NOT Want You See This!! - Cell Phone Towers Exposed!" (2017)

3. Weather Modification, Climate Change, Geo-Engineering and Earthquakes

Hostile and military weather modification with severe effects is banned under the United Nations Convention of 1976.

- *"Each State Party to this Convention undertakes not to engage in military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party."*
  Article 1:

United Nations: "Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques" (1976)

- *"States shall not place nuclear weapons or other weapons of mass destruction in orbit or on celestial bodies or station them in outer space in any other manner; ... the Moon and other celestial bodies shall be used exclusively for peaceful purposes; ... States shall be liable for damage caused by their space objects."*
  United Nations: "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies" (1966)

Some states or groups, however, have considered or experimented with weather modification, climate change, geo-engineering, earthquakes and tectonic weapons, and putting satellites with offensive capabilities into orbit. HAARP, financed by the US Air Force and Navy, began in 1993 and was closed in 2014. It had a 3.6 megaWatt transmitter, with an effective radiated power of up to 5.1 gigaWatts or 97.1 dBW.

- *"Others are engaging even in an eco type of terrorism, whereby they can alter the climate, set off earthquakes or volcanos remotely, through the use of electromagnetic waves"*
  William S. Cohen, US Secretary of Defense: "Conference on Terrorism, Weapons of Mass Destruction, and U.S. Strategy" April 28, 1997

- Anon.: "HAARP: How to make an Earthquake" (2010, 10 mins)
- Burks, Fred: "HAARP: Secret Weapon Used For Weather Modification, Electromagnetic Warfare" (Global Research, August 1 2010)
- Cabin Talk: "Elana Freeland talking about 5G and the GeoEngineering connection" (October 27 2017)
- Chamberlain AR et al: "Weather and Climate Modification" (Report of the Special Commission on Weather Modification, National Science Foundation, US, 1965, 149 pages)
- Chossudovsky M: "The Ultimate Weapon of Mass Destruction: "Owning the Weather" for Military Use" (Global Research, May 22 2016)
- Chossudovsky M: "Washington's New World Order Weapons Have the Ability to Trigger Climate Change" (2002)
- Coble, Barry B: "Benign Weather Modification" (School of Advanced Airpower Studies, Maxwell Air Force Base, Alabama, 1996)
- Eastlund, Bernard J: "Method and apparatus for altering a region in the earth's atmosphere, ionosphere, and/or magnetosphere" (US Patent 4686605 A, 1985)

- ETC Group: "Geo-Engineering Moratorium agreed at UN Ministerial in Japan" (Food Freedom, October 28 2010)
- Finner, Dee: "Weather Manipulation and the Results" (c.2005)
- House TJ et al: "Weather as a Force Multiplier: Owning the Weather in 2025" (US Air Force, 1996)
- Huff, Ethan A: "New NASA research points to possible HAARP connection in Japan earthquake, tsunami" (Natural News, June 10 2011)
- Intergovernmental Panel on Climate Change: "Summary" (2013)
- Intergovernmental Panel on Climate Change: "Climate Change 2013: The Physical Science Basis" (2013)
- Kincaid, Paul: "USAF redeploys X-37B climate chaos, earthquake and tsunami inducing orbital HAARP weapon" (Press Core, May 23 2015)
- Livingston, Ben: "The Father Of Weaponized Weather" (2011, 39 min.)
- Newell HE: "A Recommended National Program In Weather Modification" (NASA, Report to the Interdepartmental Committee for Atmospheric Sciences, US, 1996, 97 pages)
- Parker JEK: "Sonic lawfare: on the jurisprudence of weaponised sound" (Sound Studies, 2019)
- Weeks, Darren: "Methods of Artificial Weather Manipulation (AWM) help agriculture, devastate the enemy and control the world economy" (India Daily, March 27, 2005)
- Wiginton, Dane: "Geoengineering: Waging Weather Warfare On World Populations" (Geoengineering Watch, January 2 2018, 46 min.)
- Wiginton, Dane: "HAARP: Are Microwave Transmission Weapons Of Mass Destruction Being Used To Trigger Catastrophic Earthquakes?" (November 16 2016)

4. Cybersecurity of Active Devices

- Camara C et al.: "Security and privacy issues in implantable medical devices: A comprehensive survey" (2015)
- Pycroft L et al.: "Security of implantable medical devices with wireless connections: The dangers of cyber-attacks" (2018)
- Wu F et al.: "Cybersecurity for Medical Device Manufacturers: Ensuring Safety and Functionality" (2016)

5. Surveillance using EM exposures

- Nathan Colquhoun: "Moon the Balloon Protest in Sarnia" (July 31 2009)
- Mark Harris: "Pentagon testing mass surveillance balloons across the US" (Guardian, August 2 2019)
- Maya Kosoff: "China's Terrifying Surveillance State Looks a Lot Like America's Future" (Vanity Fair, July 9 2019)
- MassPrivateI: "Police Used Streetlamps To Spy On The Public More Than 140 Times" (Activist Post, August 8 2019)

6. Covert radar cybersecurity using millimeter waves

Covert millimeter wave radar radiation at 75-100 GHz together with Artificial Intelligence identification and recognition systems has been developed for use in scanning people for weapons.

The MiRTLE (Millimetre-Wave Radar Threat Level Evaluation) system makes 3,000 scans a second, using radiation similar to airport scanners. Whereas airport scanners are designed for a single and brief transit, covert security is designed to work all the time.

- *"An airport scan lasting just a few seconds reaches only about one tenth of the limit recommended by the International Commission on Non-Ionizing Radiation Protection (ICNIRP).*

  If RPS scans members of the public, however, exposure would not be not controlled in the same way.

  Individuals sitting on benches or taking cigarette breaks might remain within the test area for many minutes, and thus be exposed to potentially millions of scans."

  Mark Harris: "Vulcan plans to test AI security system on Seattle plaza, capable of scanning passersby for threats" (Geek Wire, December 19 2018)

There was a request for authority to perform a demonstration test of this system in California in May 2018 and reports of trials in Seattle later in 2018.

These frequencies have been little tested for safety either theoretically or from radiation devices in use. It is known that these frequencies can have very serious effects on e.g. eyes, optical nerves, and genomic stability.

The ICNIRP safety guidelines are designed only for short-term heating, based on Schwan's mistake in 1953. These do not protect against long-term and low-level biological effects, such as those caused by induced currents from the radiated magnetic fields.

At this frequency range normal building material is essentially opaque, therefore it is essential to prevent radiation escaping which could interfere with the radio astronomy frequency range.

Evolv Technology uses 24-30 GHz. It applied for testing at the DHS's Transportation Security Laboratory in New Jersey, and the FBI's headquarters in Quantico, Virginia.

The brochure for the Radio Physics MiRTLE radiation device claims that it uses " harmless millimeter-wave signals that permeate clothing at frequencies between 75 and 110GHz", but no scientific proof is given that this particular radiation is harmless.

- Evolv Technology
- Evolv Tecnhology: FCC Application (2016)
- Evolv Technology testing: FCC Application (2015)
- MiRTLE brochure
- *Radio Physics*
- "Supplemental Statement of Radio Physics Solutions/"RPS" FCC Experimental License File 0788-EX-ST-2018" (2018)
- "Radio Physics Solutions Experimental STA Request" (2018)

7. European Parliament

In 1999 the European Parliament issued a statement on **Legal aspects of military activities,** which included the following:
"26. Calls on the European Union to seek to have the new 'non-lethal' weapons technology and the development of new arms strategies also covered and regulated by international conventions;
27. Considers HAARP (High Frequency Active Auroral Research Project) by virtue of its far-reaching impact on the environment to be a global concern and calls for its legal, ecological and ethical implications to be examined by an international independent body before any further research and testing; regrets the repeated refusal of the United States Administration to send anyone in person to give evidence to the public hearing or any subsequent meeting held by its competent committee into the environmental and public risks connected with the high Frequency Active Auroral Research Project (HAARP) programme currently being funded in Alaska;
28. Requests the Scientific and Technological Options Assessment (STOA) Panel to agree to examine the scientific and technical evidence provided in all existing

research findings on HAARP to assess the exact nature and degree of risk that HAARP poses both to the local and global environment and to public health generally;
29. Calls on the Commission, in collaboration with the governments of Sweden, Finland, Norway and the Russian Federation, to examine the environmental and public health implications of the HAARP programme for Arctic Europe and to report back to Parliament with its findings;
30. Calls in particular for an international convention for a global ban on all research and development, whether military or civilian, which seeks to apply knowledge of the chemical, electrical, sound vibration or other functioning of the human brain to the development of weapons which might enable any form of manipulation of human beings, including a ban on any actual or possible deployment of such systems;"

"'Non-lethal' weapons(9)

So-called 'non-lethal' weapons are not a new type of weapon but have existed for many years in such forms as water cannons, rubber bullets and tear gas. However, at the present time, more and more advanced weapon techniques have been developed which are labelled non-lethal despite the fact that they can cause extensive damage and even result in invalidity or death.
Both material and antipersonnel technologies have been developed. One example is acoustic weapons which are capable of confusing and disorientating and thereby neutralising an enemy by producing a low level of sound, known as infra-sound. Other examples are adhesive foam and blinding lasers. Chemicals which discolour water can affect both agriculture and the population. With the aid of electromagnetic beams it is possible to knock out the enemy's computer, navigation and communication systems. Non-lethal weapons can also be used against a country's infrastructure and authorities, bring the railway system to a standstill or cause chaos in a country's financial world. What these weapons have in common is that they are intended to delay, obstruct and overcome a potential enemy at 'strategic level'.(10)
The fact that these different types of weapon are all categorised as non-lethal is seriously misleading and deluding. The term 'non-lethal' is intended to portray these weapons as more humane than conventional weapons - but there are no humane weapons. The use of any type of weapon involves a risk of injury or death, which is of course the purpose of weapons. 'Non-lethal' weapons tend to be used at an early stage of a conflict and may actually serve as a catalyst for the conflict. The use of violence by soldiers and police may increase because the weapons appear to be less dangerous. The inherent risk is that these weapons reduce the threshold for the use of violence to settle conflicts.
The aim is to neutralise the enemy without sustained suffering and without fatalities. But how and against whom 'non-lethal' weapons are used is an important consideration in terms of the implications of these weapons. A weapon that can render a soldier harmless, may injure or even kill a child or an elderly person. The distance from which they are fired and in what quantity are other factors with a bearing on the effects of the weapon. By way of comparison, conventional weapons result in 'only' 25% mortality.(11)
Non-lethal weapons are used as an effective aid in modern warfare, either independently or in conjunction with conventional weapons. For example, the USA used radio frequent weapons in the Gulf War to knock out Iraq's energy system(12), despite not knowing the antipersonnel effects of RF weapons. Non-lethal weapons should, therefore, not be regarded as separate from a lethal system but rather as a component thereof. The development of non-lethal weapons increases both their

options. The result is therefore greater use of force rather than the opposite. 'Non-lethal' weapons do not result in non-lethal conflicts."

(European Parliament: "On the environment, security and foreign policy" (January 14 1999: PE 227.710/fin. A4-0005/99)

Written Question: by Proinsias De Rossa (PSE) to the Commission
Subject: **Weapons for manipulating human beings**
"In January 1999, the European Parliament adopted a resolution on the environment, security and foreign policy (A4-0005/99)(1) which called, in paragraph 27, for an 'international convention introducing a global ban on all developments and deployments of weapons which might enable any form of manipulation of human beings'. Could the Commission outline what action has been taken by the EU on this issue since this call was made?"

(European Parliament: Parliamentary questions: E-1287/08; March 6 2008):

8. Sonic Weapons, Long-Range Acoustic Devices

- Jeanna Bryner: "Crowd Control: How the 'Sonic Cannon' Works" (Live Science, September 25 2009)
- Charis Chang: "Long range acoustic devices terrorising protesters: A SONIC weapon that can permanently damage people's hearing is being rolled out across world and Aussie police now have them in their anti-protest kits" (News, December 22 2016)
- Nicole Chavez: "Using sound to attack: The diverse world of acoustic devices" (CNN, September 27 2017)
- "Sonic weapon deployed for Olympics" (Daily Telegraph, May 11 2012)
- Arifa Kazimova and Daisy Sindelar: "This Pain-Inducing Acoustic Device Used to Control Crowds in Azerbaijan Might Be U.S.-Made: The possible American origins of a brutal repression tool" (The Atlantic, March 14 2013)
- "Modern Tech - LRAD - Non-lethal "sound cannons" for hailing and crowd/animal control" (Ionor Rea's Tech Evolution Archive, May 11 2018, 12 min.)
- "Philadelphia Is Using A SONIC WEAPON To Keep Kids Away From Parks! (Not The Onion!)" (Press for Truth, July 9 2019, 11 min.) about high frequency weapons deployed in 31 locations in Philadelphia since 2014.
- "Russia buys crowd-control vehicles that emit sonic waves and light" (Reuters, November 22 2018)
- Matthew Weaver: "G20 protesters blasted by sonic cannon" (Guardian, September 25 2009) US police spark outrage by

using wartime acoustic weapon to disperse G20 protesters in Pittsburgh.

9. Further information

- Admin.: "Boeing Conducts First Tests of High Power Microwave (HPM) Missile" (Defense Update, September 22 2011)
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